



**NORTHEAST**

**Working**

**OHIO**

**Together**

**OZONE**

**For**

**ACTION**

**Cleaner**

**DAY**

**Air**

**PROGRAM**

## Ozone Pollution

### What is Ozone?

Ozone is molecular form of oxygen, made up of three oxygen atoms. Ground-level ozone (harmful ozone) is created when sunlight generates a reaction between hydrocarbons and nitrous oxides. Hydrocarbon emissions come from a variety of sources including cars, trucks, lawn mowers, industries, oil-based paints, solvents, and charcoal lighter fluid.



Nitrous oxide emissions come from motor vehicles and industries, but also from fossil-fuel-powered boilers and power plants.

### Why Should We Care?

At ground-level, high ozone concentrations can be a health-threatening air pollutant. Ozone can irritate the respiratory system, causing coughing, throat irritation, and/or an uncomfortable sensation in the chest.

Ozone can reduce lung function and make it more difficult to breathe deeply and vigorously. Breathing may become more rapid and shallow than normal. This may limit a person's ability to engage in vigorous activities.

Ozone can aggravate asthma. When ozone levels are high, more people with asthma have attacks that require a doctor's attention or use of medication. One reason this happens is that ozone makes people more sensitive to allergens, the most common triggers of asthma attacks.

Ozone can increase susceptibility to respiratory infections.

Ozone can inflame and damage the lining of the lungs. Within a few days, the damaged cells are shed and replaced much like the skin peels after a sunburn. Animal studies suggest that if this type of inflammation happens repeatedly over a long time period (months, years, a lifetime), lung tissue may become permanently scarred, resulting in permanent loss of lung function, and a lower quality of life.

### Why is the Ozone Problem a Summer Phenomenon?

Ozone is a highly unstable and highly reactive compound. Within moments of its formation, it tends to react with something else. It is only when ozone is forming faster than it is self-destructing that high ozone levels are possible. This occurs during warm weather because atmospheric reactions that produce ozone are accelerated by warm temperatures. This is true for many chemical reactions. As an example,

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think how long it takes to make “sun tea” versus the much faster time it takes to make traditional tea using boiling water. Although the reactions leading to ozone formation occur all year around, warm temperatures are required for ozone accumulation.

This is why Ozone Action Days typically occur between May and September. The highest daily concentrations generally occur between mid and late afternoon. A team of local air quality experts, coordinated by NOACA, declares Ozone Action Days when conditions are most likely to produce ground-level ozone. You can expect them when summer days are hot, sunny, and stifling, with little wind.

### What Can I Do to Reduce Air pollution Where I Live?

You can help clear the air! To keep pollution at a minimum:

- Ride the bus or train.
- Carpool or vanpool through RIDESHARE! (1-800-825-RIDE).
- Walk or bike whenever possible.
- Combine trips and eliminate unnecessary trips.
- Keep all cars tuned, all tires inflated, and drive the newest car.
- Refuel vehicles before or after an Ozone Action Day.
- Don't top off a gas tank. Make certain gasoline caps are tightly sealed.
- Drive smoothly. Avoid "jack rabbit" starts.
- Delay lawn cutting and other yard maintenance activities until after an Ozone Action Day, or at least until evening. A gasoline-powered lawn mower produces as much ozone-forming hydrocarbons in one hour as a car driven 50 miles.
- Don't use charcoal lighter fluid, solvent-based paints (enamel paints) or degreasers on Ozone Action Days.
- For businesses, encourage telecommuting, flex-time, and compressed work weeks, as well as conference calls in place of face-to-face meetings that require travel.

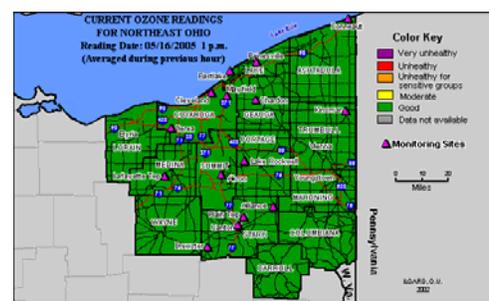


For more information on air quality in Northeast Ohio, log on to: [www.noaca.org/oad.html](http://www.noaca.org/oad.html)

[Sign up](#) at our website for the free online alerts.

While there, [“Check Today’s Air Quality”](#) online.

Your efforts can help us all breathe easier!



**If you don't have the time or a computer handy to check the AQI, just remember this:**

- ❖ If it is hot, sunny, and muggy outdoors, air pollution is probably high.
- ❖ Stay indoors on air pollution days.
- ❖ Run the air conditioner if you can.
- ❖ Don't exercise outdoors.
- ❖ Don't mow your lawn or use an electric lawn mower
- ❖ Just take it easy, and give your lungs a vacation day!

